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VALEDICTORY LECTURE

**Purchasing is a
profession ... or not?**

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VALEDICTORY LECTURE PROF.DR. ARJAN VAN WEELE

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Presented on November 30, 2018
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Introduction

Dear family, friends and colleagues,

For the past 40 years I have worked in the field of purchasing and supply management. With so much fun and interest. How is that possible? How can you deal with one subject with so much enthusiasm for such a long time? Let me explain that. Especially now that my family, friends and colleagues are here in this room.

Forty years ago, purchasing was hardly developed as a discipline. Since then, it has evolved tremendously. Notwithstanding, it remains very difficult to buy well. At this very moment, the way in which health insurance companies conclude their contracts with health care providers is in full discussion¹. With their strong negotiation power and their price-driven contracts health insurance companies drive many healthcare providers out of business. Next, they drive out quality in healthcare services leaving those in desperate need of care empty-handed. In my lectures I often refer to purchasing as 'the last frontier in business', the very last domain to professionalize in organizations. Why is professional purchasing in practice so difficult? Why is it so difficult to get grip on these complex purchasing processes? Why are managers reluctant to engage in this subject? I will explain this briefly.

Everyone likes to spend money. Especially if it is someone else's money². The government spends a lot of money on infrastructural works such as roads, dikes and tunnels. Rijkswaterstaat (i.e. the Dutch Ministry of Infrastructure) likes to make beautiful things. Roads and other infrastructural works must fit into the landscape. Numerous consultants, architects, contractors, subcontractors and suppliers are consulted. Sometimes in their offices, but often also in other nice places. Purchasing and contracting brings you in the outside world, it takes you out of your everyday routine. The person who has money to spend has status and is very welcome. Everyone likes that! Granting business to suppliers can also lead to some smaller or larger personal benefits. Then it will be even more fun!

¹ Volkskrant (2018a), Volkskrant (2018b).

² Some authors refer to this phenomenon as OPM (Other People's Money), or opium, which some managers are addicted on easily. See also <http://businessdictionary.com/definition/other-people-s-money-OPM.html>.

But buying in is not easy. A lot can go wrong when projects are commissioned. Projects can exceed the available budgets and may be delivered later than planned. This is because at the start of the project, the activities, but also the interests of the many stakeholders who are involved, have been wrongly assessed. Inadequate preparation of the work means that additional work must be carried out during the execution of the project. Often at high costs, which were not foreseen and budgeted. Energy cables must be diverted, additional permits must be applied for, the cooperation of municipalities and other licensing authorities appears to be little constructive. Buying cheap often turns out to be very expensive. The contractor with the lowest price is often the one who has seen the least risks in his preparation and the one who delivers the lowest quality. The client will notice this at the end of the project and at the delivery! The complexity of purchasing is very often underestimated.

Every purchase transaction, take for example the purchase of a car, leads to conflicting interests. The buyer wants to spend as little money as possible. The seller wants to earn as much as possible. This opposite interest is solved through negotiation. The negotiation often focuses on the price. This is not problematic if you buy standard products (commodities). However, when the focus on price is too high, this will backfire in the case of contracting a complex construction or ICT projects, where parties are still in contact with each other for years after the transaction has been concluded. It is not uncommon then for problems and risks to occur in the relationship that no one had anticipated. Only then it will become clear that each party wants to put the costs and risks associated with solving those problems for the account of the other party. Problems may turn into disputes and disputes may turn into conflicts. Which in some cases may run so high that they can only be settled through the intervention of lawyers or sometimes the court. Do you want examples? Then think about ICT projects that are implemented by the government. It is estimated that 1-1.5 billion euros per year are wasted by government in ICT projects due to poor commissioning³.

And then there is another problem. The costs caused by wrong purchasing decisions often do not come at the expense of the person who made these decisions. In other words: the buyer often does not turn to the consequences of

³ Examples that are mentioned in the final report of the Committee Elias concerning the parliamentary inquiry into governmental ICT projects are: the Dutch tax authority, the website werk.nl of UWV, the electronic patient dossier, the C 2000 location system, Ministry of Defense and the project aimed at modernizing the municipal basic administration. The committee estimates that annually 1,0-1,5 billion euro, which is spent on ICT projects, is wasted by the government.

his or her actions! Let's just get back to the example of healthcare where buyers from health insurance companies enter into contracts with health care providers and hospitals that provide care to you and me. If these healthcare providers, for example, perform a hip operation incorrectly, you and I will suffer from that problem. The relevant purchaser who has contracted this transaction with the specialist in question will not lose any sleep. Like the medical specialist, apart from the good ones, who you now deal with as a patient for the second time and can send an invoice for the second time.

Every time managers are going to spend money, strange things may happen. As they often will spend that money differently than when it was their own. So, the challenge in purchasing supply management is this one: how do you achieve the situation in business and government that managers and buyers spend the money made available to them as wisely as if it was their own money?⁴ This is exactly the playing field of the buyer. A very tricky playing field. A playing field, that is difficult to define and to play on.

I am going to talk about two things today. First of all, I will take you into my research of the past decades. Secondly, I will give my vision on what it takes to do scientific research properly. But first we will define the playing field. Purchasing: what are we talking about?

⁴ There is some evidence that also consumers do not spend their money wisely. See for a discussion of the subject Ariely and Kreisler (2018).

accountability. To take care of this, purchasing changed its focus on process management, i.e. the harmonization, standardization and automation of all purchasing methods and processes within the organization. The role of purchasing professional evolved from the buyer of goods and services and negotiator to process consultant, advisor and facilitator.

However, companies that got their purchasing process management in order, saw a new challenge for purchasing professionals emerge. Now the emphasis was on managing relationships with suppliers. Increasing transparency of the company's purchasing spend and supply base led to an enormous reduction of the article assortment and the number of suppliers. Purchasing expenses were concentrated among fewer suppliers, who got more business. As a result, the interdependence between purchasing companies and suppliers increased, which in a few cases could grow into partnership relationships. The new role of procurement focused on mobilizing the knowledge and expertise of the suppliers to improve the value proposition of the company towards the end customer. Suppliers were challenged and requested to actively contribute to product and process innovation. The buyer's role evolved further from procurement process manager to innovation sourcing specialist and supplier relationship and account manager.

With this, purchasing developed gradually from an operationally driven activity to a business driven and business critical business function (Rietveld (2009)). This process is still in full swing and takes time because this development has consequences for the interfaces with all other business functions and purchasing manpower (see Box 1). What purchasing is seems strongly related to the level of purchasing maturity. As purchasing as a discipline evolves over time, its scope and role within organizations, and therefore its identity and definition, evolves.

Box 1: Purchasing: integration with other disciplines (Harland e.a. (2018))

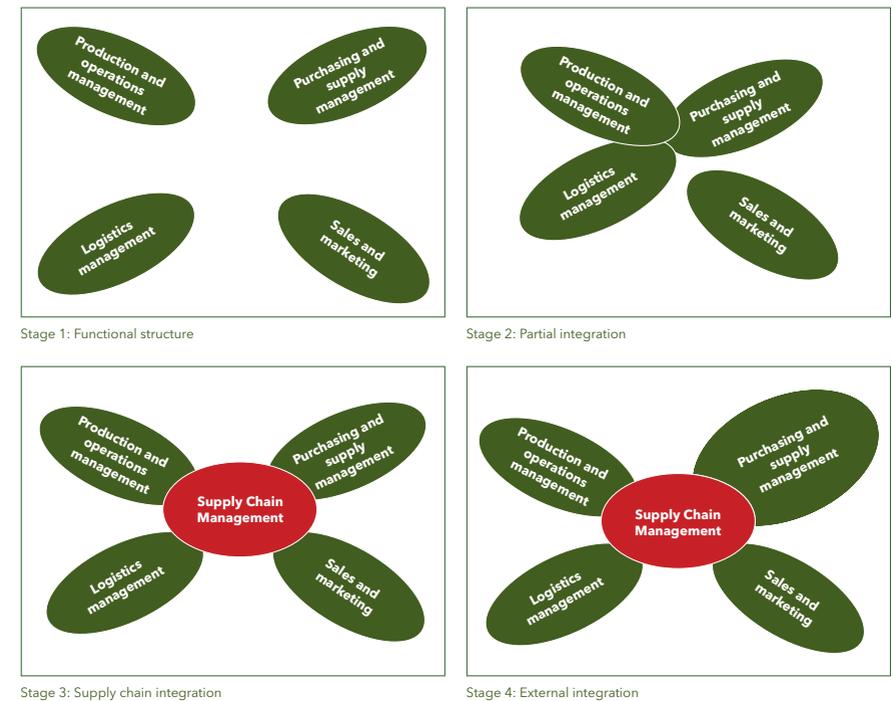


Figure 2. Purchasing: interfaces with other disciplines.

Stage 1: Functional structure. This stage, until 1970, is characterized by the fact that sales and marketing, production management, logistics and purchasing management have developed separately from one another as disciplines. In this phase, these functions are not integrated. They report to different managers. The organizational structure of companies is functional in nature.

Stage 2: Partial integration. In this phase, which covers approximately the period 1970-1990 (Miller et al. (1979)), we see a partial integration of the key business functions. Depending on the situation, production and logistics, logistics and purchasing, or production, logistics and purchasing are integrated under one responsible manager. The organizational structure of companies is nonetheless functional in nature.

Stage 3: Supply chain integration. In this phase, from 1990 on, purchasing, logistics, production and sales are integrated and reported to one responsible value chain manager. The functional organizational structure is combined with a process structure that is organized around important customer and market segments.

Stage 4: External integration. In this stage, starting in 2000, more and more processes are outsourced to specialized suppliers, which sometimes make up an integral part of the value proposition of the organization⁷. The purchase to sales ratio strongly increases as a result of outsourcing. The external costs are a multiple of the internal costs of the organization. Business-critical suppliers through their activities affect the buying company's customer satisfaction and reputation. There is a need for differentiation between the management of business-critical and non-business-critical suppliers or partners.

Considering the various episodes over the past decades, purchasing as a business function can be characterized as follows. Purchasing includes all activities aimed at:

- Managing the external costs⁸ of the organization;
- Designing, initiating, executing, managing and evaluating activities within and between organizations aimed at obtaining goods and services from external suppliers;
- Making goods, services, projects and knowledge available in a way that they meet internal customer needs, through contracts and relationships with external suppliers;
- Mobilizing the knowledge and expertise of suppliers aimed at improving the value propositions of the company, i.e. having suppliers contribute to product innovation and process innovation.

As a result, purchasing should be viewed as a 'boundary spanning activity'. Purchasing fulfills a bridging function between the company and its external supplier world. To put it in other words: purchasing professionals help their colleagues to pass the bridge to the outside supplier world and vice versa.

⁷ Examples are companies like DHL, UPS, Post.nl, which are responsible for flawless delivery of goods that are sold by Bol.com, Zalando and Wehkamp. Faulty delivery by these suppliers affects customer satisfaction and reputation of the latter companies.

⁸ External costs are equal to the annual total value paid by companies on supplier invoices.

They also guide outside suppliers, which are carefully selected, to find their way in their customer's organization to deliver their maximum performance.

The big difference between purchasing and other business functions such as production management, logistics and distribution, is that these business functions make products and services physically available. Purchasing is not concerned with physically moving or transforming products or services. Purchasing is concerned with making products and services available on the basis of contract management and relationship management⁹. In fact, purchasing creates the conditions to be able to carry out other business activities insofar as these are dependent on the inputs from suppliers. To be able to do this well procurement professionals must be able to combine the internal user perspective and/or customer perspective with the external supplier perspective. In other words: user requirements will have to be filled in respecting the capacities and interests of the suppliers. This appears to be the unique selling point, i.e. the knowledge object of purchasing.

Back to Theo's question: 'Is purchasing a profession?' This does not seem to be the case in the light of the foregoing. The scope of purchasing is clear. Purchasing seems to be a business function or business domain rather than a profession or mono-discipline. To be able to qualify as an academic discipline, purchasing must have its own procedures, research methods and techniques and a generally accepted theoretical framework from which commonly accepted procedures, models and methodologies are derived (Van Aken (1994))¹⁰. There should also be a common understanding and definition of its role. We are not that far yet. For this reason, in line with Wijnstra (2017), I want to qualify purchasing as a multi-paradigmatic application domain. This explains, why we currently have so many terms in use. It also explains why scientific research in purchasing today is carried out from so many theoretical perspectives. The fact that purchasing lacks its own theories, explains why the identity of purchasing as a discipline is still diffuse in practice (Das and Handfield (1997), Van Spina et al. (2013)). However, we are moving forward and we are making progress. And therefore, for the future it seems important to allow the visions and ideas within the field of science and the field of practice to converge. A continued dialogue between science and practice will be necessary in my view to foster purchasing's identity, which will be necessary to foster future evolutions in the field.

⁹ Or: through contractual and relational governance.

¹⁰ Characteristics of a scientific discipline are according to Van Aken (1994): a specific subject, a specific research methodology, a theoretic framework, organized knowledge, a specific professional community and a specific societal support system.

The playing field of purchasing

I have now defined the playing field of purchasing, but how big is the playing field? What amounts of money are involved? Our Central Bureau of Statistics reports some interesting data. In 2016, Dutch industry altogether spent 190 billion euros on purchases made from outside suppliers. Compared to a total sales value of 320 billion euros, this yields a purchase ratio of 59% (see Figure 3). This means that on average € 0.59 of each euro received by industry from customers is paid to suppliers. Expressed as a percentage of the operating costs, the purchase ratio is 62%. These percentages are considerably higher in the food industry, meat processing, oil and transport industry. These and even higher numbers apply to a few companies in the Eindhoven region. DAF Trucks reports a purchase ratio of 82%. ASML repeatedly reports figures of up to 90%. For Philips Healthcare this figure is 77%. These are numbers that also apply to retail companies and wholesalers. For this type of companies, the impact of purchasing decisions on the financial results is enormous. With 2% savings on purchasing, these companies often manage to double their profit. The reverse is also true. If you are unable to pass purchase price increases on to your customers, or if you do not know how to avoid them, an anticipated profit can easily turn into a big loss. By the way, these numbers also show why Dutch industry is such an important employer for the Dutch supplier and services industry.

Another important employer to outside suppliers is the Dutch government. Strange enough the Dutch government does not know precisely how much it spends. The government has a total budget of around 260 billion euros. 45% of this amount is € 120 billion which is spent on goods, services and projects. This amount includes the purchase of healthcare. Excluding the purchase of healthcare, Dutch government procurement amounts to 73.3 billion euros (Telgen (2018)). Public procurement therefore has an enormous impact on our economy. Hence, it could and should be used as an important lever to foster economic activity and prosperity. However, due to its complexity it fails to do so up to now. I refer to the work of Telgen (2018) for more information on this subject.

We conclude that a lot of money is involved with purchasing. The importance of purchasing has only increased in recent years due to the fact that that organizations have outsourced a lot of their activities. With professional purchasing more money

Purchasing to sales ratio Dutch industry per sector (2016)

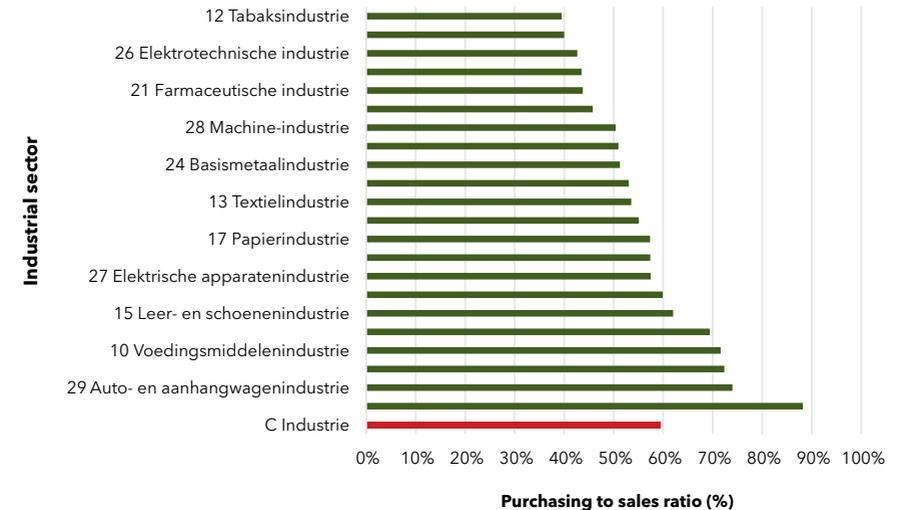


Figure 3. The purchasing to sales ratio per industrial sector (CBS (2018)).

can be earned and gained than with hard work, as I argued in my inaugural lecture in 1990 (van Weele (1990)).

However, with unprofessional purchasing you can lose more money than you can ever make up for with hard work. Examples? Think of the Metro project in Amsterdam, the High Speed Line South, and the FYRA high speed train disaster, i.e. projects where billions of euros have been wasted. To cite a recent example: think about the irregularities in the tender procedures conducted by the Dutch Railways to obtain a concession for operating rail transport in Limburg. As a result, this company had to pay a fine of € 41 million¹¹. Unfortunately, there are many more examples. As I stated earlier: buying professionally is far from easy.

What is necessary in an organization to professionalize purchasing? To ensure that the organization gets the best value for the money it spends? It is tempting to give a handful of rules of thumb and tips in my farewell speech. But I will not do that. I have written many books about this and I refer you to this literature for the sake of brevity¹². However, I will give a brief overview of the research that I have conducted to contribute to this business domain. And what insights that has yielded.

¹¹ See 'ACM wijst bezwaar NS tegen recordboete om machtsmisbruik af', Het Financieele Dagbald, 3 mei 2018.

¹² See among others Puil and Van Weele (2014), Van Weele e.a (2017), Van Weele (2018).

Purchasing research at Eindhoven University of Technology: review

My research program as a professor started in 1989 and developed along four main lines: 1) the role of ICT in purchasing, 2) structure and organization of purchasing, 3) the role of suppliers and procurement in innovation, and 4) the importance of sustainability in purchasing. I will now give you a bird's eye view over my past 25 years of academic research.

PURCHASING INFORMATION SYSTEMS

The research by Rob van Stekelenborg (1997) into the role of purchasing information systems revealed that ICT is an important enabler for professionalizing purchasing. I will explain why. Purchasing is about large numbers. In a recent consultancy assignment for a large Scandinavian paper and packaging company, we came across the following numbers. Compared to a sales turnover of € 10 billion, the procurement expenditure amounted to € 5 billion (50%), which had been conducted with 24,700 suppliers. The number of purchase requests amounted to 218,000, resulting in 151,500 purchase orders against which 303,000 invoices came in. Of the 26,700 employees, less than 1% was employed in purchasing. The question of whether purchasing can be improved is in this case a rhetorical one. Purchasing is all about managing complexity. The cost of the handling of purchase orders administratively sometimes exceeds the amount on the order. Managing these tens of thousands of transaction documents requires a high degree of automation. ICT is therefore necessary. It is also necessary to create transparency in what an organization spends, on what commodities and services and on which suppliers. ICT also allows companies to build a good contract library on which contract management becomes possible. These tasks are impossible to implement without far-reaching automation and harmonization of purchasing processes. Rob gave a good start at the time about how to set up specific purchasing systems and what was needed to implement them. Heidi Romero (2014) later presented ideas in her thesis to foster harmonization and standardization of purchasing processes. The number of purchasing information systems has boomed. Without doubt they will further change the nature of this business domain.

PURCHASING COORDINATION AND GOVERNANCE

Harmonization, standardization and automation of purchasing systems allow large companies to coordinate their purchasing activities. Instead of having each operating company purchase individually, it is wise to coordinate common purchasing needs and suppliers as much as possible. Frank Rozemeijer (2000) showed in his thesis that purchasing coordination is a complex and highly political issue. He mapped out various procurement coordination structures through qualitative research. Subsequently, he was able to indicate, through quantitative research, the factors that determine which structure is best for a concern. The two main factors turned out to be purchasing maturity and group cohesion (see Figure 4). The dynamic nature of these two factors explains why purchasing group structures are constantly changing. The purchasing coordination model developed based on this research appeared to be an excellent guideline both for professionalizing purchasing and for the design of purchasing group structures. It has been widely adopted by Dutch business and a score of international companies. Frank gave insight into the importance of effective purchasing

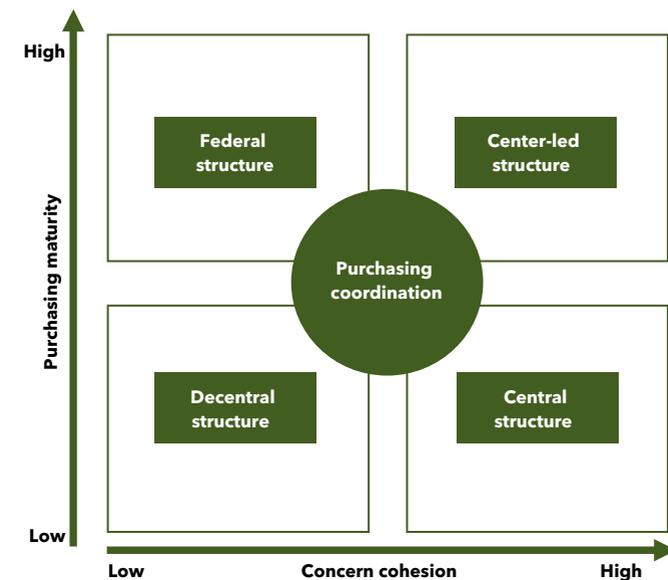


Figure 4. Purchasing coordination model (adapted from: Rozemeijer (2000)).

governance as part of corporate governance. A subject that can still be greatly improved at many companies. Purchasing coordination deeply influences the way in which companies are managed. And, therefore, requires attention from top management.

Rather than choosing between fully centralized or decentralized purchasing, large companies and our government, opt for hybrid procurement structures. In a hybrid structure part of the expenses are managed centrally, another part locally. But a very important part is purchased through cross-functional procurement teams¹³. These teams are staffed with employees from different operating companies and departments. They can be led by purchasing professionals, but that is not always possible or desirable. The performance and success of these procurement teams were studied by Boudewijn Driedonks (2011). He found that these teams often lose momentum after a successful start. And in many cases do not meet the expectations formulated at the start. In his research, in which more than 60 procurement teams spread among 12 companies in both the Netherlands and Sweden participated, he found the explanation for this phenomenon. Cross-functional procurement teams are often started too hurriedly, with too few resources and too little support and supervision from the purchasing management. His research resulted, in addition to an excellent dissertation, in a computer-supported tool that purchasing managers can use to improve the effectiveness and functioning of such procurement teams.

Kees Gelderman (2003) complemented this line of research with his research into the actual use of the Kraljic matrix, which is widely known for the development of purchasing strategies. This matrix was used by 80% of the larger companies in our country. Rather than pursuing effective cooperation with suppliers, this matrix was mainly used by buyers to create a stronger position of power towards the supplier. This, of course, to foster a greater dependency of the supplier and thus to stipulate lower prices and better purchasing conditions. This study was one of the first to highlight the role and importance of power and dependence in the actual design and application of purchasing strategies in practice.

¹³ Also: category sourcing teams.

THE ROLE OF SUPPLIERS IN INNOVATION

Next to every own employee, an organization often pays the salary of two or three employees at suppliers. Therefore, the knowledge and expertise in the outside supply world exceeds that of the company. It is therefore crucial to mobilize the knowledge and expertise of specialist suppliers to foster product and process innovation. But how do you do that? How do you involve purchasers and suppliers in product innovation and process improvement? Or even in the development of new business models? On this subject I have conducted extensive research together with four doctorate students, i.e. Finn Wijnstra (1998), Ferrie van Echtelt (2004), Regien Sumo (2014) and Jelle de Vries (2017). Additional research was needed because academic research showed contradictory results in the eighties and nineties. Some researchers showed that early involvement of suppliers in product innovation provided significant benefits. Other researchers reported opposite results. Involving suppliers in product innovation would lead to competence problems, loss of sensitive information (Intellectual Property), discussion about reimbursement of development costs and ethical problems.

The research by Finn Wijnstra (1998) showed that developers and engineers are generally not in favor of working with buyers. They also would not like supplier specialists to engage in their work. Their fear is that, when doing so, part of the development work will shift to suppliers, which will put their own jobs in danger. In addition, the not-invented-here syndrome is almost always present when suppliers come up with better ideas. Finally, developers and engineers resist buyers, as they feel they will limit their valued contacts with the outside world. Finn concludes that it is not the question of how to involve procurement in product development that is relevant. A more important question to address is how and when to involve suppliers in new product development. Ferrie van Echtelt (2004) further developed Wijnstra's ideas. His research made it clear that, if companies want to effectively involve suppliers in their innovation processes, they must give specific attention to improving the relationship with suppliers. For which they need specific 'collaborative management processes'. As a rule, these processes receive very little attention. His work resulted in another assessment tool that enables companies to analyze in advance whether the conditions in the organization are present to successfully create innovative collaboration with suppliers.

Regien Sumo (2014) carried out her research from a different angle. She studied the effects of different contract models on innovative cooperation with suppliers. Her research shows that performance contracts should be favored for this¹⁴. However, these contracts must be handled with great caution. Buyers need to be careful on how to use incentives in this type of contract, because performance-based incentives may impede the development of truly innovative ideas. Furthermore, she showed that performance contracts do not make sense in a company with a risk-averse culture. Finally, an important finding was that the contract form indeed affects innovation performance. But much more important than contract management, the quality of the supplier relationship appears to be important. Based upon her research she argued that the quality of the relationship is decisive for the freedom experienced by suppliers' experts to share innovative ideas with clients.

This idea was further developed by Jelle de Vries (2017). His research shows that the early involvement of suppliers in product development, actually, is all about human interaction. Supplier technical experts must manage conflicting interests: the interest of the company to develop profitable business versus the client's interest in bringing successful innovations to the market. This conflict can only be resolved if the client informs the supplier about his business plans and sees both the supplier and his representatives as full partners. Fostering a climate of trust is crucial. This requires the buyer to have a clear eye for the short-term and long-term interests of the supplier. This has significant implications for the way in which suppliers i.e. supplier specialists are introduced in the buyer's organization and how these engage with the buyer's technical experts.

PURCHASING, INNOVATION AND SUSTAINABILITY

I must certainly also mention the work of Mirjam Kibbeling (2010). Her research focused on analyzing the effects of sustainability on innovation in chain relationships. In plain Dutch: is it useful for companies to pursue sustainability in supplier relationships or not? Mirjam investigated this question in 86 individual supply chains consisting of a core company, an important client and an important supplier. A very complex and time-consuming research design that she and I will not repeat anytime soon. Her findings were that in general sustainability promotes innovation in chain relationships. After all, by setting additional requirements in the

¹⁴ Especially those performance contracts, aimed at soliciting solutions from specialist suppliers, affect the company's innovative potential positively.

field of sustainability, the solution space for suppliers is reduced and the supplier will have to find new product and process solutions in consultation with his client. However that only works if the client also actively cooperates in these solutions and supports the supplier. It works much less when the client, from his traditional purchasing role, limits himself to setting requirements towards suppliers, but does not make any effort himself to help him or drive sustainability within the own organization. Kibbeling puts behind the idea that sustainable purchasing only leads to higher costs. That happens if you do it wrong. But if you take sustainability seriously as a purchasing manager, it will lead to an enormous boost for the innovative strength of your own company. Later, her insights were confirmed by the experiences of large companies including Unilever, Nestlé, Nespresso, IKEA, and Philips. Unilever, which is leading in the field of sustainability, analyzed the carbon emissions that are caused in its total value chain. This shows that only 2% of the total carbon emission is produced by Unilever itself. 3% is caused by transport and distribution of Unilever's products to the customer. 68% is caused by you and me when we as a consumer use the detergents and personal care products of Unilever. 1% is caused at the end of the product's life when it is turned to waste. A staggering 26% is caused by suppliers. Rather than investigating how your own business operations can be made more sustainable, it is important for these types of companies to look at what can happen in the relationship with suppliers and consumers. Purchasing professionals have an important responsibility and task with regard to sustainability in my opinion. A task that, I will come back to this, gets far too little attention from management.

All in all, this series of studies, which led to numerous books and scientific publications, gave me a lot of insight into these topics. I am convinced that:

- Companies cannot invest enough in ICT to support their purchasing processes.
- Large, multi-unit companies can only achieve results from purchase coordination if this is accompanied by effective procurement governance, i.e. a set of rules about how to deal with sales contracts and supplier relationships.
- Supply chain innovation through early supplier involvement is an absolute condition for companies to survive, but it requires a keen eye for the human work that underlies this. In practice, this interest is, except for a few exceptions, completely absent.
- Companies do well to pursue sustainability in their supply chains, not only because it will make our world so much better, but also because it will give their company's innovation an enormous boost.

PURCHASING'S IMPACT ON SOCIETY

To my regret, I cannot discuss all aspects of the purchasing domain. Here, I want to reflect on a few concerns that I have about the way in purchasing and supply management has developed in recent years.

A first observation is that purchasing has moved from the backroom to the boardroom of companies. As a result of outsourcing, companies and governments have started to buy activities that they originally did themselves. Financial managers, CFOs, are aware that with a few percent savings on total purchasing expenditure, profits can be significantly increased and the return on investment even more. Which is why they command their purchasing managers to deliver purchasing savings year after year. Today, purchasing managers use a digital auction technology that enables them to get the best possible deal from suppliers via the internet. These auctions often serve no other purpose than to drastically reduce the price. The Dutch government is obliged to buy goods, services and works using the European tender procedures. Today, these complex procedures are also supported by digital technology¹⁵. Our government is becoming more and more experienced in the use of this technology. This is the reason why in a few business sectors, such as cleaning, catering, home care, and taxi transport (to name a few), companies are barely profitable. Due to selection on price, suppliers cannot make a decent margin and hardly pay their employees the minimum wages. Hence, the employees and the users involved end up paying the bill. Employees of the suppliers are paid poorly. Users do not receive the services and products they have requested. The buyer get off in this process. In fact, he or she will receive his/her bonus at the end of the year based on the savings realized. Market parties, for example in the cleaning sector, have tried to solve this problem by agreeing upon a code of conduct that calls for responsible behavior of all parties involved. Personally, I do not believe that this will solve the problem. The purchasing triad explains why these problems occur. Undesirable social effects of the purchase are the result of non-closed triadic relationships between purchaser, supplier and user (see Box 2). It is of utmost importance that, to solve these major societal problems, the purchasing triad in these sectors is closed.

¹⁵ These solutions are provided in the Netherlands by for example Negometrix.

Box 2: Purchasing triads in the healthcare sector

With purchasing triad¹⁶ we refer to the relationship between purchaser, user and supplier. It is very important that the relationships between these parties in the purchase triad are closed. Unbalanced relationships (see Figure 5) in the triad almost always lead to undesirable effects. In the Dutch healthcare sector, insurance companies buy care from health care providers at the expense and risk of premium paying clients. Negotiations with health care providers result, year after year, in rates that are barely profitable. Which is why most home care organizations cannot afford qualified nurses. In those cases patients who need help at home are confronted with home care staff who do not have the right qualifications and who must perform their duties under great pressure. The buyers of the insurance company go free: they are paid for their savings and can expect a bonus at the end of the year. The employees of the home care organizations pay the bill: they are underpaid and must operate under great time pressure. But the person who really pays for the problems is the patient, who has to wait a long time for help, who gets treatment from several different nurses and who barely gets any value for the money that he/she pays. This problem can only be resolved if purchasers are primarily incentivized on the quality of the service provided by the home care organizations who are contracted by them, to be assessed by the patient. If this parameter is not part of the scorecard of the purchaser of the insurance company, this problem will remain unsolved. It is of great importance to close the purchasing triads in healthcare!

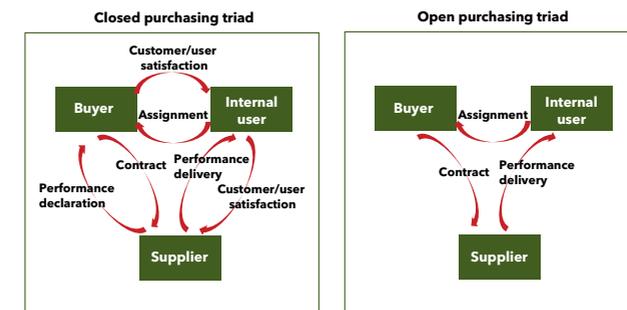


Figure 5. Closed and open purchasing triad.

¹⁶ See Van der Valk (2011).

Another aspect that I must address is that purchasers have built complex, global supply chains in recent years, resulting in enormous carbon emissions. In addition, they do business with suppliers with poor working conditions. I refer to the dubious purchasing practices of Dutch fashion retail chains¹⁷. But also to the purchasing practices of Apple, Samsung and other electronics manufacturers¹⁸. In these cases too, the bill is paid by others than the buyers.

I think that there is an urgent need to put an end to this type of purchasing practice. In the business world you are punished as a buyer when suppliers deliver poor quality. Poor quality of components, late delivery by suppliers leads to financial losses. Losses to be borne by the company itself. If suppliers do not perform well, the purchasing department is found rapidly. Non-performing buyers are fired. This is not the case in the government and the healthcare sector. The consequences of unprofessional procurement and unbalanced procurement processes are not borne by the people who cause them. They end up with you and me as taxpayers. I would like to argue that purchasers within health care and government sector are primarily judged on the quality and sustainability of the products and services that are bought by them, and internal customer satisfaction. Of course, within clearly established budgets. And that they are no longer driven by the savings they are supposed to realize within their budgets. This is also important for the procurement community itself, because it will increasingly be sidelined if this traditional purchasing behavior continues. Traditional purchasing behavior does not particularly contribute to the reputation of the profession and will prevent getting young talent interested in this type of work.

¹⁷ Volkskrant (2018c)

¹⁸ Volkskrant (2013)

Purchasing and academia

I have had the privilege of being able to operate during my entire career as a part-time academic at the crossroads of theory and practice. I have explicitly looked for those crossroads. As a young PhD student, my supervisor, the esteemed Prof. Dr. Hein van der Hart, allowed me a lot of freedom to follow my own interests. Originally, it was his idea that I would focus my PhD trajectory on research into the success of new industrial products in a business to business context. After a year I asked him if I could focus on the subject of purchasing. I quickly found out that if you want to sell something, it is useful if you know how the counterpart buys. So, I wanted to know how big companies actually purchased new products. Remarkably, this subject was not dealt with during my studies at university. It was not discussed during the many marketing courses that I followed. First, I contacted the Dutch Association for Purchasing Efficiency¹⁹, where its great secretary at the time, Mr. Huug Hage, brought me into contact with purchasing managers from practice. My conversations and contacts with these professionals have been decisive for the further course of my career. Purchasing had not been discussed at all in my business administration studies. The discussions with companies pointed to all kinds of problems that arose in the relationship with suppliers, but also in the relationship between buyers and their internal business environment. I then decided to focus on a broadly shared issue in the purchasing world: how can we measure and assess the performance of buyers? This was a fascinating investigation. Huug Hage had contact at that time with the Steering Group for Large Enterprises (SIGB), which needed a leadership program for their seasoned procurement professionals. Exactly the man with whom I had graduated, Prof. Jacques de Rijcke, a renowned professor of marketing at Ghent University, and guest lecturer at the Interfaculty Business Administration in Delft at the time, was instructed to organize a purchasing leadership program for this Steering Group. De Rijcke asked me to assist him. That was not asked in vain. I was allowed to enroll in the first program, where I found myself in the midst of experienced purchasing managers from Philips, DAF Trucks, Akzo Nobel, PTT and other companies. I was completely moved when De Rijcke came up with the plan to interview leading companies in the United States with me and to visit universities and consultants working in the procurement domain. In six weeks we conducted 52 interviews, we came into contact with more than 25 companies and we also followed two

¹⁹ NEVIE, later renamed into Dutch Association of Purchasing Management (in Dutch: NEVI).

seminars organized by the National Association of Purchasing Management²⁰. During those first two years I learned a few important things. Firstly, I discovered that the theories and the research that I was reading about were very different from what I encountered in practice. Secondly, the problems that purchasing managers spoke about in practice were not discussed in scientific research. Purchasing managers were not aware, whatsoever, of any literature and research. And thirdly, that the purchasing literature fell significantly behind the strategy and marketing literature I knew. I then set out to transfer valuable concepts that I encountered in the strategic management and marketing literature into the purchasing field. I did that through many articles and textbooks over the years. That has proven to be a fruitful and rewarding labor. And I do not refer here so much to the sales of my textbooks, but to the successful application of many of those ideas in practice. This idea of bringing strategic and marketing concepts to purchasing and supply management appeared to be very powerful.

These experiences led me to a fairly unique picture of the role of an academic. This image corresponds beautifully to the image envisaged by Leonardo da Vinci. He outlined the Homo Universalis. The human being who is deeply rooted in a certain discipline, but who also reaches out to many diverse parts of the world outside him and who introduces that outside world into that field (see Figure 6).

I have felt, though somewhat better dressed, as the man in the middle. The contacts with the many professionals that I encountered led to an identification of problems that I felt needed to be analyzed and solved through academic



Figure 6. Homo Universalis and scientific practice (source: Da Vinci (1565)).

²⁰ See for the outcomes of these interviews Van Weele e.a. (1982).

research. That research led to publications that brought me into contact with other academics (I need to mention WION²¹ and IPSERA²² here as valuable (inter)national fora for purchasing researchers). Obviously, I needed to seek support for my research by practitioners. Actually, these practitioners were my laboratory. I was always curious to listen to their experiences, and to be informed about their problems. Next, when presenting my findings, I was eager to learn from their comments and suggestions on how to improve my work. My research and contacts with the outside world enabled me to become a qualified academic teacher. I had no trouble in illustrating theoretical models with practical examples. Neither did I have any problem in analyzing practitioner problems using scientific theories and models. I increasingly got dexterity and pleasure in doing so. Pretty soon, I was able to build a highly interesting and successful consulting practice, helping companies to better understand and solve their complex purchasing problems. Both my research, consulting experience and teaching capabilities were important for the many executive programs in which I participated. However, in doing so I had to change my teaching methods. Executives are impatient and want to take home practical ideas after the program.

I found out that the intelligence in the classroom, generally, was much larger than that in front of the room. For this reason I developed a strongly interactive way of teaching. Not seldomly, I was wiser and had learned more about my own subject than the participants at the end of the program. Through the learning programs for professionals I also came into contact with their problems and issues and I was asked to support them as an advisor. In the many interesting consultancy assignments that I was allowed to do, I found out that there is a big difference between being right and be proved right, and that it is very important to tailor your advice to the context of your client. Because it is best if people really get started with your ideas and implement them. Instead of offering far-reaching theoretical perspectives that are unfeasible for everyone.

Thanks to Leonardo da Vinci I created my own learning cycle, which to this very day has not come to an end. The diversity and variety of activities that I was allowed to carry out not only led to a deep understanding of the academic, but also practitioner side of my field. It also led to an incredible job satisfaction. It really feels like I didn't have to work a day in my life. I can wholeheartedly recommend you to pursue this Da Vinci wheel of scientific pleasure!

²¹ WION: Workshop on Purchasing Research in the Netherlands. This meeting is organized annually among the Dutch academic purchasing research community.

²² IPSERA: International Purchasing and Supply Education and Research Association, the international academic research community in purchasing and supply management.

Reflection on the role of a scientist

I advise professionals and managers in practice to read a lot and to explore. And if you cannot do that yourself, ask especially young people to do that for you. It is amazing what insights and learnings they will deliver and what they are capable of. I really recommend professionals and managers to seek contact with university and educational institutions. This is for mutual benefit.

I advise scientists to engage with practitioners in the field and to be curious about what happens in practice. I have missed this practice orientation within this university for the past 20 years. I am surprised at the fact that PhD students are only judged on their scientific achievements. More specifically on their analytical skills and thesis. I am surprised at the fact that PhD students can successfully finish a PhD on data collections that have not been collected by themselves. And that they can obtain their doctorate on a dissertation in which they have had little or no contact at all with practitioners. Rather than a thesis, development as an academic person should be core to any university or faculty. Only 25% of PhD students finds a job within the academic world after obtaining their degree. The remaining 75% have problems when they enter the world of business practice²³. No wonder! Send PhD students away from their laptops. Put them in the practice laboratory for at least half of their time. That literally will make everyone better. I am glad that this is finally being recognized by the Executive Board of our university. In the new strategy, the Eindhoven Engine is planned: a new type of public-private partnership around physical, future-defining innovation projects²⁴. I advise the Board to engage PhD students in these types of projects immediately.

I am surprised at the fact that scientists (I limit myself to Industrial Engineering) are exclusively assessed on the number of publications (with all its perverse consequences²⁵), instead of developing a position in their field of science and their practitioner forum. In general, the visibility of our scientists to the outside world is limited. As a part-timer, I was for a few years the most-cited scientist at Eindhoven

²³ Volkskrant (2017).

²⁴ Eindhoven University of Technology, TU/e Strategy 2030: Drivers of Change, 2018, pp 48 e.v.

²⁵ Judging academics only upon their publications leads to strategic and sometimes perverse publication behavior. See among others Van Raaij (2018).

University of Technology in the press. What does that say about the exposure of our scientists to the outside world?

I am not so much concerned with creating that visibility as such. Rather, if I were a Faculty Dean or Rector, I would be concerned about how to develop future scientists against the background of the Da Vinci Wheel of Work Pleasure that I just outlined. A scientist who is deeply rooted in his/her own field and has a broad scope on the world of practice around him or her. A scientist who is interested in the scientific discourse in his or her subject area and who wants to contribute to this debate, wherever it may be. Here, in my opinion, lies an important challenge ahead: the knowledge in this house, also within Industrial Engineering, is huge, the intrinsic quality and competencies of our colleagues are great. In my opinion it is really time for universities to change course. A first step is that scientists are assessed on the application and societal value and impact of their research results and not on the number of publications. Next, their teaching capabilities, their contributions to courses and programs for professionals within their own field of study, and their skills gained in many consultancy assignments in evaluation and promotion should be recognized, when considering promotion. Also book contributions and being author of study or textbooks should be fully recognized as scientific contributions. I am sure that this will positively influence their research skills and the quality of their research, but especially their work pleasure and job satisfaction. It is time to free academics from the monotonous donkey work related to turning out publications by the number. The new TU/e strategy 2030 provides for this kind of ideas, but in my opinion it is still too obligatory. It is time to put these ideas into practice! Get on with it!

Professors and researchers in the future should have room for personal advisory work or supervisory positions within companies and institutions. Having such positions should be a requirement when awarding research grants.

Our university programs are highly appreciated. Students receive an excellent baggage from our programs. Nevertheless, they experience our programs as highly theoretical. They are empty-handed when it comes to how to solve complex practical problems. This is why I recommend confronting students with concrete innovation challenges offered by companies in the surroundings of Eindhoven during the Master phase. The Innovation Space that we now have at our disposal offers great opportunities for this. Innovation assignments should be provided by the wonderful companies around Eindhoven with the aim to produce specific innovations on the basis of theory and student talent. In my view, also our

department of Industrial Engineering and Innovation Sciences must fully endorse this idea.

At the entrance of our TU/e campus, you will not have missed it, the sign says 'Where innovation starts'. Well, if we are serious about innovation, we will also have to work in an innovative way ourselves. Innovation is not possible without social innovation. We academics need to change the way we work. Our society demands it. We need to increase our work pleasure. Our department is now moving to a new building. Seize this moment to also shape social innovation within our house.

Acknowledgments

Here, I want to say a few words of thanks to the many people who have made it possible for me to assume the role of a researcher, teacher and as a professor. In the first place, my big thanks go to Prof. Constant Botter, at the time the visionary Dean of our department, who asked me at the beginning of 1989 about my willingness and interest to become a part-time chair in the field of purchasing management. I did not have to ponder long. I immediately accepted the invitation. I had a great time at the Eindhoven University of Technology. I have always felt at home in this house. I hope that I have been able to meet the expectations of my employer. And I wish this university finds a qualified successor for my chair. And I do certainly hope that this chair will be supported with sufficient resources. I thank Fred Langerak, Jeroen Schepers, Josette Gevers and Mathieu Weggeman for their great collegiality, quality and inspiration. It has been such a great pleasure to work together with these professionals in a number of successfully completed PhD programs.

Thanks also go to those people who are always operating at the background, but who are so crucial for the work of any researcher. I have been privileged for so many years to work with excellent secretaries. Bianca, Frederieke and Freke, you belong to the best! As a department, we are so blessed with working with you! Many thanks for your patience with me, your accuracy and control over my agenda and texts! Thank you so much for orchestrating this day so professionally!

I want to thank my PhD students Rob, Finn, Frank, Ferrie, Kees, Myriam, Boudewijn, Regien and Jelle, but also my former UD's Nicolette Lakemond, Erik van Raaij and Wendy van der Valk for the many years of work pleasure that they have provided me with and for the surprises they have given me. This also applies to Christian van der Krift, who has supported me in my courses in recent years and who has done an excellent job. We have run great courses. To all my PhD students: it is so special what you have achieved. Your work has far exceeded my expectations, as well as yours. But your work also led to a lifelong collegial bond and personal friendship in most cases. It is so nice to meet and exchange regularly.

A similar word of thanks to my students. I have enjoyed working with you so much. And to observe what you learned from the nine, now six months, that we

both spend on a graduation thesis project. In retrospect, you always indicate that this was the most insightful phase in your entire study. I wish you all the luck and success in your further career and life.

Of course, I would not have been here without the great relationship and support of the Dutch Association for Purchasing Management (NEVI). Our relationship now covers nearly 40 years. In those 40 years, so much has changed and improved. Since 1979, NEVI has grown from roughly 250 to 6500 members and has organized numerous training, conferences and workshops. I have been able to contribute to many of them. I refer here to the Purchasing Executive Program, which under the direction of his godfather Bert Pinkster has developed into a fantastic program for those managers that want to get informed quickly about what it takes to manage purchasing! I would also like to mention the acclaimed ISFAH course that later evolved in the Purchasing Leadership Program, which is now being organized under the direction of a similar godfather, i.e. Prof. Dr. Frank Rozemeijer. I have been very pleased to have contributed to these programs for 40 years. I have also been so privileged to have worked with you so closely, Frank!

It was remarkable that NEVI decided in 1989 to invest part of its financial resources in scientific research and university chairs. The Netherlands is unique in this respect. Not only do Dutch purchasing scientists have great influence and respect among their foreign colleagues. Over the years, many students and graduates have also found their way to purchasing positions in the business world, both within our own country and abroad. Dutch purchasing managers appear to be a successful export product. The prestige of purchasing in the Netherlands is internationally high. This is clearly due to NEVI's unwavering support for scientific work. I do hope to continue this work as a board member of the NEVI Research Foundation. Dik, Henk-Jan, Hans and Erik: I experience working with you within our board as extremely pleasant and constructive. I hope to be able to contribute to the NRS for many years to come.

For many years I have contributed to numerous executive programs, both at home and abroad. A special feature was the period 2014-2016 in which, together with my colleague Professor Carlos Cordon, I was able to design a consortium research program in the field of purchasing and supply chain management. That gave me the opportunity to teach at the top school in Europe. However, these experiences do not outweigh the programs that I was requested to carry out at TIAS, the business school of Tilburg University and our university. I mention here in particular the International Contracting program, for which TIAS was approached years ago by a consortium of international offshore and construction companies. Together

with Mark Vincken, program manager, and John van der Puijl we have developed a program that has been running for more than 10 years and has had more than 28 editions. The appreciation of participants, all experienced project managers who carry out large infrastructure projects at home and abroad, for this program is high. Reason why I do want to continue this program. I want to thank John van der Puijl, and Wilfred Veldstra who succeeded him, for their collegiality and quality and their insight into that special world of international business law. And Marieke Boudewijns and her colleagues for her professional support.

The academic community in the field of purchasing is easy to oversee. It has been a privilege for me to be part of this great group of people. I would like to thank all fellow professors, Jan, Finn, Frank, Erik, Bart and Holger for the fine cooperation and the scientific debate that we regularly have on numerous issues. Every year WION and IPSERA are highlights for me. Both fora offer young and more experienced scientists the opportunity to discuss and comment on work in progress. The learning process takes place on both sides. Dear Christine, dear Lisa: it has been such a pleasure to have worked with you on our international Meetings of Minds aimed at defining purchasing's identity!

The practice of science and, in particular, the creation of a position within your own discipline is top sport. You need to work a lot outside of the normal working hours. Everyone knows that. The unique position that I obtained in the field would not have been possible without the many hours and days that I spent on this, for years, and was allowed to spend. It requires strong motivation, discipline and perseverance. Things that I have inherited from home. I say thanks to my mother, and father, who is fortunately still among us, for their unwavering support, interest and the trust they have always placed in me. Dad, you still are a role model for me!

That same support I got from my family, who had a little less interest in my field..., but who were always there. Vivianne and Marijn, and now also Ayla and Tarek: you have given me so much pleasure. From a young age on you put limits on my work, and rightly so. There is much more to life than work!

My final words are for you, Ineke. You are such a great person and partner. I have such a formidable life with you. I thank you for your unprecedented love, support and the freedom that you have given me. I could not have done this without you!

Ladies and gentlemen, everything has been said ... Thank you all for coming! Let's have a drink...!

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Curriculum Vitae

Prof. dr. Dr. Arjan van Weele has been part-time Professor of Purchasing Management at the Department of Industrial Engineering and Innovation Science, Eindhoven University of Technology since 1989. Since 1992, his chair has been supported by the Dutch Association for Purchasing Management (NEVI).

Prof. dr. Dr. Arjan van Weele studied business administration at the Interfaculty of Business Administration in Delft (1978). After his military service (1978-1979), he obtained his doctorate in 1984 at Eindhoven University of Technology with a thesis entitled 'Purchasing Control: Performance Measurement and Evaluation of the Industrial Purchasing Function'.

After that he worked from 1982-1989 as an associate professor in Marketing at Nyenrode Business University, before he accepted his part-time Chair on Purchasing Management at Eindhoven University of Technology in 1989. This made him the first procurement professor in the Netherlands.

He always combined his scientific work with consultancy. He worked as a business consultant at Van Dien + Co Organisatie (later PriceWaterhouseCoopers) from 1986-1989 and became a partner (later managing partner) at Holland Consulting Group from 1989-1999, where he developed a successful purchasing consultancy practice. Since 1999 he has been working as an independent boardroom consultant in the field of purchasing and contract management.

He is generally regarded as the founder of purchasing as a discipline in the Netherlands. In addition to his many scientific publications, he also published numerous articles in (inter) national professional journals and published study and textbooks, which over the years were published in various languages (English, German, Norwegian, Swedish, Slovenian, Turkish, Chinese).

In addition, he is known as an excellent teacher. Within the Department of Industrial Engineering and Innovation Sciences, his Strategic Sourcing courses were nominated almost continuously for the Industria Education Prize. This

prize was received 5 times by him. In addition, he is a frequent guest speaker in numerous executive programs. He provided 40 years of uninterrupted contributions to a number of NEVI procurement management programs, including the NEVI Purchasing Leadership Program and the NEVI Purchasing Executive Program. In addition, he has been very active within IPSERA (International Purchasing and Supply Education and Research Association) and he is the founder and organizer of WION (Workshop Purchasing Research Netherlands).

In 2003 he was awarded the Hans Ovelgönne Award from the International Federation of Purchasing and Supply Management (IFPSM) for his contribution to the purchasing discipline. In 2018 IPSERA awarded its Lifetime Achievement Award to him for his scientific contributions to the purchasing domain.

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